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ABSTRACT

This article provides a description of how computer files can be used to store language materials that teachers commonly use and how they can access that material very simply and use it in a variety of ways. A computer file may be compared to a filing cabinet which has separate drawers and in each drawer separate folders. A drawer might be labeled "Spanish Subjunctive" and would contain separate folders marked "Noun Clauses," "Adjective Clauses," "Commands," etc. Similarly, a computer file, or "drawer," can be established containing drill and examination materials on the subjunctive, with the various subdivisions indicated. The "folders" would be called file elements. The mechanical equipment necessary to the teacher consists of a typewriter-terminal and a connect device. The article is written for teachers who have no familiarity with computers. The discussion of technical details is kept to a minimum in order to make the presentation of the general concepts easier to follow and to keep the attention focused on a few ways that computer files might make teaching more effective and lighten clerical burdens. (Author/CFM)

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USING COMPUTER FILES FOR EASY ACCESS TO LANGUAGE EXERCISES AND DRILLS

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Professor Davison has been author and editor of a number of works on Hispanic poetry and criticism. He has contributed reviews, poetry, translations, and articles to various journals.

Ned. J. Davison

The following article is written for teachers who have no familiarity with computers. The discussion of technical details has been kept to a minimum in order to make the presentation of the general concepts easier to follow and also to keep the attention focused on a few ways that computer files might make our teaching more effective and lighten our clerical burdens. The actual use of the files by means of a typewriter terminal is a simple matter. A do-it-yourself manual could easily be made available which would enable a user to manage files after about five hours of study. Here in the Salt Lake Valley, all that is needed to make use of the University of Utah computer facilities is a terminal and a connect device to enable the user to tie into the university computer with an ordinary telephone.

If you desire further information concerning the use of computer files in foreign language instruction, Professor Davison would be happy to respond to inquiries and to provide additional material.

WHAT IS A COMPUTER FILE?

What this article hopes to provide is a description of how computer files can be used to store language materials we commonly use in our teaching of a language and how we can access that material very simply and use it in a variety of ways. A computer file may be compared to a filing cabinet which has separate drawers and in each drawer separate folders. A drawer might be labeled "Spanish Subjunctive" and would contain separate folders marked "Noun Clauses, Adjective Clauses, Commands", etc. Similarly, a computer file, or "drawer", can be established containing drill and examination materials on the subjunctive, with the various subdivisions indicated. The "folders" would be called file elements. For all intents and purposes one may think of computer files, as discussed here, in this way.

Exercises and testing materials can be drawn out of these files and printed on ditto masters, or on paper to be duplicated in other ways, in order to reinforce a grammatical lesson under discussion at the moment, or they may be brought in for remedial drills on weaknesses extraneous to the specific subject under study but grave enough to require immediate attention. The great virtue is that the material remains in the electronic file, always susceptible to immediate correction, enlargement, and so on. This feature of emendation, expansion or change at any time--leaving the data fresh and automatically reproducible on a typewriter terminal without need of subsequent proof-reading--is a great virtue of the computer file; it is its undeniable advantage over old clerical methods.

WHAT EQUIPMENT IS NEEDED?

The mechanical equipment necessary to the teacher is simple; it consists of a typewriter-terminal and a connect device. The terminal operates very much like an ordinary electric typewriter, and in fact may be used as a typewriter if desirable. It is connected to a device sometimes called a "Data-Phone". This device cradles a telephone receiver and sends the electronic impulses from the typewriter on to the central computer, for example the UNIVAC 1108 housed in the Computer Center at the University of Utah. Therefore, all that is needed to utilize the central computer is the typewriter-terminal, the connect de-

vice, and an ordinary telephone. The user simply dials the computer's number, places the receiver in the connect cradle and begins to type the appropriate information to initiate interaction with the central files.

There are a wide variety of terminals available for purchase and each has its particular virtues. If foreign languages are to be used, a terminal that has the capability of interchanging the type fonts is especially to be recommended. The cost of such terminals to educational institutions runs about three to four thousand dollars. One terminal, however, will serve a number of teachers in a school and may be used for many things other than languages. The average cost of a connect device is minor, one hundred to two hundred dollars. It should be pointed out that the cost of most computer devices is in most instances, going down rather than up--somewhat in the way hand-calculators have decreased in cost because of greater volume and new manufacturing techniques. Maintenance contracts run from two to three hundred dollars a year. Equipment may also be leased--an option that may be desirable in the first year or so of experimentation. It is also possible that purchase of this equipment may fall within the province of Federal or other funding thus the expense to the educational institution would be minimized. The cost of the computing time, which would be handled by an institutional account number, is very modest. The EDIT processor used in the files and operations demonstrated here rarely averages more than $1.50 per hour of terminal use. When files are only being used for drawing printouts of existing material the rate may even be less.

USING FILES FOR REMEDIAL WORK

One of the most common problems we all face as teachers of a foreign language is finding time to prepare on-the-spot materials to remedy language weaknesses or deficiencies that are basic and critical yet not the precise focus of a given lesson or course. The difficulty is rarely in the diagnosis of the weakness; it is in not having easy access to usable materials that will pin-point the area of difficulty and provide drills. This is true of general class deficiencies; it is especially acute and hard to cope with where there are varied individual weaknesses. With the size of our classes, individual help becomes more and more difficult. Not only do we find ourselves needing easily accessible and specific materials but the problem of correction and guidance materials is likewise acute. If we can devise ways to provide

exercises precisely when they are needed, with self-correction aids to orient the student, then we can better do our jobs without the drudgery of constantly re-typing and re-making old lists, old dittos, or old file-cards.

It is simply not practicable to expect a teacher to go home at the end of the day and search through texts and dittos or sit down and create a set of exercises calculated to drill the class or individual, on a newly discovered weakness, the coming day. Not only is the teacher faced with creating the material, but perhaps the additional problem of providing correctional guides is often a greater deterrent. I personally have found that the difficulty of following up a recognition of deficiencies of the moment with drill material that is specifically directed to those deficiencies and which provides some sort of guide to correct responses is often so great that the weaknesses must pass untreated, only to be perpetuated in succeeding days and classes. The ease of access and updating that the computer file offers makes it easy to be conscientious.

FILES SAVE TIME AND MONEY

Traditionally we have had to rely on the scissors-and-paste method of revising old exercises. This technique certainly will work, but it brings many vexations that can be eliminated by the computer file where repeated proof-reading is eliminated. It is very important to note also that ditto masters can be made directly on a teletype or other typewriter-like terminal. Thus the reproduction is rapid and inexpensive.

The composition, editing, revisions, formatting, and the final printout all remain in the hands of the teacher. I believe this is a great advantage that protects the quality of the materials, insures their ready use, and saves the teacher a good deal of anxiety and valuable time. The instructor is more familiar with the languages he is dealing with and better able to make decisions on last-minute changes where they are necessary. After the specific materials have been used on a given day, it is also much easier for him to eliminate or alter those that have proven to be confusing or ineffective. In this way he is assured that their subsequent use will be more successful.

EXAMPLES OF EXERCISES

Let's take a look at a few examples of some exercise sentences that might be stored in a file and then accessed by any teacher. Visualize the teacher seated at the terminal keyboard;

he or she dials in normal fashion the computer number, cradles the phone receiver in the connect device, or "Data Phone", and then types in the appropriate command to tie into the computer. A pre-assigned account number and password--unique to the personal or departmental account--is then typed by the teacher; this "RUN statement" activates the terminal for use. A file name is assigned to establish the new file space which is to hold the material to be input. The file is then called up in the appropriate processor (or "language"), and sentences can then be typed into the file element. Here is an example of how this would look on the printout or typed copy.

```
@EDIT S*LANG. SAMPLE
EDIT <28R> 10/3/76 13:21
   SAMPLE (0)
INPUT

>THIS IS A SAMPLE
>OF HOW ONE INSERTS
>TEXT OR SENTENCES
>IN A FILE ELEMENT.
>
EDIT
*>EXIT
END EDIT 4 LINES OUTPUT
```

(In these reproduced printouts, the arrow indicates the lines the teacher types, the others are responses typed automatically by the terminal. The file's identifying name, here (S*LANG.SUB), is whatever you choose it to be. It is customary to use a mnemonic code to aid in recognizing the nature of the contents.)

If the terminal which you use does not have Spanish symbols, it will be necessary to improvise other marks for the accent, the tilde, and the dieresis. These can be translated very simply by the computer to produce the proper letters on a terminal with the appropriate letter-type. For example, the quotation mark (") could stand for the tilde (~), and the accent mark (´) could be placed in the space after the letter over which it normally appears (Example: mañana/MAN"ANA; sabíamos/SABI'AMOS).

USING A FILE YOU HAVE ALREADY SET UP BEFORE

First, here is a portion of a file on the subjunctive in noun clauses:

THEY WANT US TO READ IT BUT WE DON'T WANT TO.
QUIEREN QUE LO LEAMOS PERO NO QUEREMOS HACERLO.

IF HE HAS ASKED YOU TO SING YOU OUGHT TO GET STARTED.
SI TE HA PEDIDO QUE CANTES DEBES EMPEZAR.

WE WILL INSIST THAT THEY DO WHAT YOU HAVE SAID.

INSISTIREMOS EN QUE HAGAN LO QUE HAS DICHO.

After a file has been established, that is to say that once the sentences have been put into the computer "memory", the file of sentences can be called up at any time thereafter for printing sentences or revising them in any way desired. The samples above are typical. The computer language used here, as in others in this presentation, is known as EDIT.

Although it is admittedly simplistic and inadequate in any ideal sense, the method above of using a translation model to provide guidance on exercises offers at least an example of a possible response. An unexpected virtue of this format is that it often leads to the lively discussion of possible variant translations. This provides the opportunity to reiterate the grammatical bases of the construction under discussion, a reiteration that comes at a moment when the student or students are actively interested in the reasons for this or that choice of expression.

SPECIFIC EXAMPLES

Let's take some specific examples of how this file may be used. The Spanish subjunctive, as we know too well, is a feature that requires constant review, regardless of the student's level of study. Let's assume that a student is having trouble with noun clauses. If we can call out of the file a list of however many English sentences seem necessary to adequately review the problem, present the list to the student for translation into Spanish, and then, on completion of the translations, provide an identical list with a model Spanish translation, some progress might be made. This procedure is easily duplicated for an entire class.

I DOUBT THAT THE LEAVES WILL BE GREEN WHEN WE RETURN.

THE PLANES TRIED TO MAKE THE PEOPLE STAY IN THE FIELD.

I KNOW (THAT) YOU WERE AFRAID THAT THE DOG HAD DIED.

HE WANTED PEOPLE TO READ HIS WORKS.

I WANT YOU TO TAKE THE MONEY AND BUY SOME NEW SHOES.

Or say we are reviewing the subjunctive in general, however many exercises are desired can be drawn--using a program for random selection--from an entire file where all types are included.

*>CALL S*LANG.QSUB 3 N 5 5

WE KNEW IT WAS NATURAL THAT HE NOT WANT TO SEE HER AGAIN.

SABÍAMOS QUE ERA NATURAL QUE EL NO QUISIERA VERLA OTRA VEZ.

THEY HAD WANTED US TO SEND THE LETTERS BY SATURDAY.
HABÍAN QUERIDO QUE ENVIÁRAMOS LAS CARTAS PARA EL SÁBADO.

(TÚ) TELL THE WOMEN TO MEET US IN THE PARK.
DILES A LAS MUJERES QUE SE REÚNAN CON NOSOTROS EN EL PARQUE.

THERE ARE AT LEAST THREE PEOPLE WHO WANT US TO LEAVE.
HAY AL MENOS TRES PERSONAS QUE QUIEREN QUE NOSOTROS SALGAMOS.

WE'LL SING WHEN THE MUSIC BEGINS.
CANTAREMOS CUANDO EMPIECE LA MÚSICA.

The choice of sentences desired can be controlled easily. They can be called out in consecutive sequence or in quasi-random units at whatever interval desired. The CALL command in our examples here contains such specifications in the last four items on the command line. For example, in CALL S*LANG.QSUB 5 N 5 5 the last four elements are: 5 = begin at line 5; N = print the Spanish translation; 5 = set an interval of five units between sentences chosen; 5 = print five units. These various selective printouts can, of course, be used for the preparation of examinations as well as exercises. The inclusion of the Spanish translations allows for more frequent quizzes with less of the teacher's time having to be devoted to corrections.

OTHER KINDS OF SIMPLE EXERCISE MATERIAL

The types of exercises that may be used in more or less the same fashion as the translation units we've seen above are numerous. Most traditional drills are possible; in fact, it should be stressed that what we are discussing here is the computer's usefulness in producing ordinary printed exercises and tests. Although its potential as a genuine teaching device is not being considered, its clerical value is worthy of our attention. Who could not do a better teaching job with the help of a clerical assistant who produces error-free typewritten exercises, examinations, and such, drawn from a large collection of catalogued materials? That is precisely what computer files and a terminal offer, and at a very low cost.

Just to give an idea of other kinds of drills, here is a sample listing; all types can be accessed in essentially the same ways as the translation files demonstrated above:

EL CHICO (SALIR) AYER A LAS DIEZ DE LA NOCHE.
SALIÓ

ELENA ENTRÓ EN LA SALA MIENTRAS (BAILAR) SU NOVIO CON OTRA CHICA.
BAILABA

YO/TE/ESCRIBIR/MAÑANA/CUANDO/RECIBIR/CHEQUE
TE ESCRIBIRÉ MAÑANA CUANDO RECIBA EL CHEQUE.

ERA/POSIBLE/JUAN/MORIRSE/
ERA POSIBLE QUE JUAN SE MURIERA.--SE HUBIERA MUERTO.

ARCHITECTURE	: LA ARQUITECTURA
BEGINNING, AT THE	: AL PRINCIPIO
CERTIFICATE, TO GET A	: CERTIFICARSE
ELEMENTARY SCHOOLING	: LA ENSEÑANZA PRIMARIA

ES MUY FÁCIL USAR UN LÁPIZ PARA ESCRIBIR, PERO SI SE QUIERE QUE DURE LO ESCRITO, ES MEJOR ESCRIBIR CON-----
1. EL PENSAMIENTO.
2. UNA CARTA.
3. TINTA.
4. LA MANO.

CUANDO ÉL ERA CHICO, JORGE CREÍA QUE LAS ESTRELLAS ERAN MUY PEQUEÑAS. AHORA SABE QUE ÉL NO TENÍA-----
1. ESTUDIADO.
2. RAZON.
3. SED.
4. ENTENDIDO.

SI UD.-----QUE MI LÁPIZ ES MEJOR,-----
1. CREA -ÚSELO.
2. CREYERA -ÚSALO.
3. CREE -ÚSELO.
4. CREYESE -ÚSELA.

I CAN'T GO WITH YOU; I HAVE TO STUDY.
1. NO PUDO IR CON UD.; HAY QUE ESTUDIAR.
2. NO PUDE IR CONTIGO; HABÍA QUE ESTUDIAR.
3. NO PUEDO IR CONTIGO; TENGO QUE ESTUDIAR.
4. NO PUEDO IR CON TI; TENGO QUE ESTUDIAR.

THE SHOW WAS AMUSING, BUT I WAS TIRED.
LA PELICULA-----DIVERTIDA PERO-----CANSADO.
1. ERA - ESTUVIERA
2. FUE - ERA
3. FUE - FUE
4. ERA - ESTABA

HE SENT THE LETTER SO THAT I COULD READ IT.
MANDÓ LA CARTA PARA QUE LA-----
1. LEÍA.
2. LEA.
3. LEYERA.
4. LEERÍA.

¿QUÉ PAPEL DESEMPEÑABAN LOS JUGLARES EN LA EDAD MEDIA?

¿QUÉ ES "EL LIBRO DE BUEN AMOR"-DE QUÉ SE TRATA Y EN QUÉ ÉPOCA SE ESCRIBIÓ?

¿EN QUÉ SE DIFERENCIAN LOS ESTILOS GÓTICO Y ROMÁNICO?

¿QUIÉN ESCRIBIÓ ESTOS VERSOS? "NUESTRAS VIDAS SON LOS RÍOS QUE VAN A DAR A LA MAR./ QUE ES EL MORIR."

¿QUÉ INVENCIÓN DEL SIGLO XV CONTRIBUYÓ SIGNIFICATIVAMENTE A LA DIFUSION DE LA CULTURA?

I have used several of these files in my own classes, on an experimental basis in some cases and as a regular part of the course in others. The vocabulary list, consisting of some 700 words drawn from dialogue materials used in an intermediate conversation course, has saved me a good deal of typing and proof-reading in the preparation of dittos for quizzes and major exams. The question file on Spanish Civilization has been even more of a time-saver--it contains about 350 such questions. Even more sustained exercises are possible. Here is an example of a translation unit.

TRANSLATION UNIT

A TRES LEGUAS DE ESTE VALLE ESTA UNA CIUDAD QUE, *AUNQUE PEQUEÑA* (1), ES DE LAS MÁS RICAS QUE HAY EN TODOS ESTOS CONTORNOS; EN *LA CUAL* (2) HABÍA UN LABRADOR MUY HONRADO; *MAS LO ERA ÉL* (3) POR LA VIRTUD QUE TENIA

QUE POR LA RIQUEZA QUE ALCANZABA. MAS *LO QUE* (4) LE HACÍA MÁS DICHOSO, *SEGÚN ÉL DECÍA* (5), ERA TENER UNA HIJA DE TANTA HERMOSURA Y VIRTUD, QUE EL QUE LA CONOCÍA Y LA MIRABA SE ADMIRABA DE VER LAS EXCELENCIAS *CON QUE* (6) EL CIELO Y LA NATURALEZA LA HABÍAN ENRIQUECIDO. *SIENDO NIÑA* (7) FUE HERMOSA, Y SIEMPRE *FUE CRECIENDO* (8) EN BELLEZA, Y EN LA EDAD DE DIEZ Y SIETE ANOS FUE HERMOSÍSIMA. LA FAMA DE SU BELLEZA *SE COMENZÓ A EXTENDER* (9) POR TODOS LOS PUEBLOS VECINOS Y *HASTA* (10) LAS CIUDADES APARTADAS.

(1) 1. HOWEVER SMALL
2. EVEN SMALL
3. ALTHOUGH SMALL
4. STILL SMALL

(2) 1. WHICH
2. HER WHO
3. THAT WHO
4. THE ONE WHICH

(3) 1. MORE IT WAS
2. HE WAS MORE SO
3. BUT HE WAS
4. BUT IT WAS HE

(4) 1. THE ONE THAT
2. HE WHOM
3. WHAT
4. THAT WHICH

(5) 1. FOLLOWING WHAT HE SAID
2. THE SECOND (THING) HE SAID
3. ACCORDINGLY HE WAS SAYING
4. ACCORDING TO WHAT HE SAID

(6) 1. WITH WHICH
2. WITH WHOM
3. SO THAT
4. BY WHICH

(7) 1. WHEN A CHILD
2. BEING COQUETTISH
3. BEING CHILDLIKE
4. BEING A YOUNG GIRL

(8) 1. WENT ALONG
2. CONTINUED TO GROW
3. WAS BELIEVING
4. BELIEVED

(9) 1. WAS BEGINNING TO SPREAD
2. BEGAN TO STRETCH OUT
3. BEGAN TO SPREAD
4. WAS BEGINNING TO EXTEND ITSELF

(10) 1. BEYOND
2. EVEN TO
3. UNTIL
4. UP TO

CONCLUSION

Hopefully these examples show the ease with which material can be drawn from the file for

daily or unanticipated use. If sufficient interest is generated by this introductory discussion more detailed information could be provided in subsequent notes in ULQ.

There are much more sophisticated ways in which the computer can be used in teaching, but they require expensive equipment and systems. Nevertheless the simple and inexpensive uses described here can still help us teach much more effectively while wasting a good deal less of our effort on tedious clerical chores. If we could begin to establish a body of exercise and testing material that would be available to teachers of the region the benefits could be realized almost immediately. It is not necessary to have a "complete" file in order to use whatever may be available at a given moment.

The costs involved are very modest, and especially so in terms of the numbers of students who would be served and the faculty time that would be saved for more creative tasks. Perhaps the Utah Language Quarterly could serve as a clearing house to coordinate interest in some sort of common project to these ends.

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